REMARKS

ON THAT KIND OF

PALSY

OF THE

LOWER LIMBS,

WHICH IS FREQUENTLY FOUND TO ACCOMPANY
A CURVATURE OF THE SPINE,
AND IS SUPPOSED TO BE CAUSED BY IT.

TOGETHER WITH

ITS METHOD OF CURE.

TO WHICH ARE ADDED,

OBSERVATIONS on the NECESSITY and
PROPRIETY of AMPUTATION,
IN CERTAIN CASES,
AND UNDER CERTAIN CIRCUMSTANCES.

By PERCIVALL POTT, F. R. S.
And SURGEON to ST. BARTHOLOMEW'S HOSPITAL.

Verumque est ad ipsam curandi rationem nihil plus conferre quam experientiam. CELSUS.

LONDON:
Printed for J. JOHNSON, No. 72, St. Paul's Church-Yard,
M,DCC,LXXIX.

TO

DR. JOHN LEWIS PETIT,

ONE OF THE PHYSICIANS TO ST. BARTHOLOMEW'S HOSPITAL,

THE FOLLOWING

T R A C T S

ARE INSCRIBED,

AS A SMALL MARK OF THE GREAT ESTEEM AND REGARD OF

THE AUTHOR.

REMARKS, &c.

AMONG the various objects of Physick and Surgery, there are unfortunately some in which all the efforts of both, have hitherto been found absolutely ineffectual, and which therefore have always made a very disagreeable, and melancholy part of practice.

To remove, or even to relieve any of the miseries, to which mankind are liable, is a very satisfactory employment; but to attend on a distemper from its beginning, through a long and painful course, to its last, fatal period, without even the hope of being able to do any thing which shall be really serviceable, is, of all tasks, the most unpleasant.

In ſuch caſes, any attempts, however hazardous, provided they were rational, would be juſtifiable; certainly then, whatever is not in itſelf dangerous, and affords the ſmalleſt ray of hope, ought to be embraced.

Some little time ago I gave to the publick an account of the ſucceſs which I had ſeen attend the free uſe of opium in mortifications of the toes and feet; particularly in thoſe which began, or were attended with great pain.

In that publication I merely related the fact, as it had happened under my own eye; I entered into no reaſoning about it; nor did I give to the medicine any greater degree of credit than it appeared to me to deſerve; I did not propoſe it as a certain ſpecific, or as a remedy whoſe ſucceſs was always and infallibly, or indeed even generally to be depended upon; I acknowledged, that I had ſeveral times ſeen it fail; but as I had alſo ſeveral times ſeen it ſucceed, as I was very ſure that no hazard could poſſibly attend the experiment, and,

as the beſt and moſt experienced practitioners were obliged to allow, that they were not yet acquainted with any means whereby they were enabled to prevent the fatal effects of this moſt horrid diſtemper, or even to retard its daily and painful ravages, I thought it my duty to make known as early as I could, what I had ſeen, that others might make the ſame trial, and thereby propagate the benefit. Had any other means of relief been known to the faculty, and this had therefore appeared to me only in the light of another, or a preferable one, I ſhould certainly have withheld my obſervations, until more time had verified and confirmed them, and thereby have proved the ſuperior utility of what I had to propoſe: but as the fact was directly the contrary, as opium was the only medicine which I had ever ſeen prove really, and eſſentially ſerviceable; as it had ſucceeded ſo often, and to ſuch a degree, as to ſatisfy me that much good might be expected from it; and as I was perfectly ſure that not the leaſt degree of hazard could attend the trial, I thought that ſuch pub-

lication, though early, could not be regarded in any other light than its true one; I mean that of a requeſt to the profeſſion in general to repeat the experiment; and that therefore it could not be juſtly deemed premature. If upon repeated trial the ſucceſs ſhould not be found equal to what I thought I had good reaſon to expect, no harm could accrue to the patient; if it ſhould anſwer my expectation, it would ſerve the moſt valuable of all purpoſes.

Since that time I have had the ſatisfaction of having my opinion confirmed, not only by my own experience, but by the concurrent teſtimony of ſeveral practitioners of eminence in different parts of the kingdom, who have done me the favour to communicate to me the reſult of their experiments; the ſucceſs of theſe, as I expected, from what I had ſeen, have not been conſtant, but it has been ſo frequent, as to make me very well pleaſed at having furniſhed the hint. I ſincerely wiſh that the good effect was more general and more certain, but the preſervation of even a few, from a malady,

found

found hitherto to have been inevitably deſtructive to all, is a matter of ſome importance, and furniſhes no unpleaſing reflection.

I now do the ſame thing, relative to another diſorder, which I then did with regard to the mortification. I publiſh an account of the good ſucceſs which has attended a particular method of treating a diſeaſe, which has hitherto foiled all the efforts of art; and as I do it now from the ſame principle which I did then, *viz.* that of inducing others, by making the ſame experiment, to propagate the benefit, I make no apology for another early publication.

The diſeaſe of which I mean to ſpeak, is generally called a palſy, as it conſiſts in a total or partial abolition of the power of uſing, and ſometimes of even moving the lower limbs, in conſequence, as is generally ſuppoſed, of a curvature of ſome part of the ſpine.

To this diſtemper both ſexes, and all ages, are equally liable. If the patient be an infant, it becomes an object of conſtant, though unavailing diſtreſs to its parents; if an adult, he is rendered perfectly helpleſs to himſelf, and uſeleſs to all others, which, of all poſſible ſtates, is ſurely the very worſt.

When this diſeaſe attacks an infant of only a year or two old, or under, the true cauſe of it is ſeldom diſcovered until ſome time after the effect has taken place, at leaſt not by parents and nurſes, who know not where to look for it. The child is ſaid to be uncommonly backward in the uſe of his legs, or it is thought to have received ſome hurt in its birth.

When it affects a child who is old enough to have already walked, and who has been able to walk, the loſs of the uſe of his legs is gradual, though in general not very ſlow. He at firſt complains of being very ſoon tired, is languid, liſtleſs, and unwilling to move much, or at all briſkly; in no great

great length of time after this he may be obſerved frequently to trip, and ſtumble, although there be no impediment in his way; and whenever he attempts to move briſkly, he finds that his legs involuntarily croſs each other, by which he is frequently thrown down, and that without ſtumbling; upon endeavouring to ſtand ſtill and erect, without ſupport, even for a few minutes, his knees give way and bend forward. When the diſtemper is a little farther advanced, it will be found that he cannot, without much difficulty and deliberation, direct either of his feet preciſely to any exact point; and very ſoon after this, both thighs and legs loſe a good deal of their natural ſenſibility, and become perfectly uſeleſs for all the purpoſes of locomotion. When an adult is the patient, the progreſs of the diſtemper is much the ſame, but rather quicker.

Untill the curvature of the ſpine has been diſcovered, it generally paſſes for a nervous complaint; but when the ſtate of the back bone has been adverted to, recourſe is almoſt

always had to ſome previous violence to account for it; ſome pulling, lifting, carrying, or drawing a heavy body, which is ſuppoſed to have hurt the back. In ſome few inſtances, this exertion may have been ſuch, as might be allowed to have been equal to the effect, but, in by much the majority, this is ſo far from being the caſe, that if it be admitted to have had any ſhare at all in it, ſome prediſpoſing cauſe, at leaſt, muſt be looked for, in which, (in my opinion) conſiſts the very eſſence of the diſeaſe.

I have, in compliance with cuſtom, called the diſeaſe a palſy; but it ſhould be obſerved, that notwithſtanding the lower limbs be rendered almoſt, or totally uſeleſs, yet there are ſome eſſential circumſtances in which this affection differs from a common nervous palſy: the legs and thighs are, I have juſt ſaid, rendered unfit for all the purpoſes of loco-motion, and do alſo loſe much of their natural ſenſibility, but notwithſtanding this, they have neither the flabby feel, which a truly paralytick limb has,

has, nor have they that ſeeming looſeneſs at the joints, nor that total incapacity of reſiſtance, which allows the latter to be twiſted in almoſt all directions; on the contrary the joints have frequently a conſiderable degree of ſtiffneſs, particularly the ancles, by which ſtiffneſs the feet of children are generally pointed downward, and they are prevented from ſetting them flat upon the ground.

The curvature of the ſpine, which is ſuppoſed to be the cauſe of this complaint, varies in ſituation, extent and degree, being either in the neck or back, and ſometimes (though very ſeldom) in the upper part of the loins; ſometimes comprehending two vertebræ only, ſometimes three, or more, by which the extent of the curve becomes neceſſarily more or leſs; but whatever may be the number of vertebræ concerned, or whatever may be the degree or extent of the curvature, the lower limbs only feel the effect—at leaſt I have never once ſeen the arms affected by it.

This

This effect is alſo different in different ſubjects: ſome are rendered totally and abſolutely incapable of walking in any manner, or with any help, and that very early in the courſe of the diſtemper; others can make a ſhift to move about with the help of crutches, or by graſping their own thighs with their hands; ſome can ſit in an erect poſture, or in a chair, without much trouble or fatigue, which others are incapable of, at leaſt for any length of time; ſome have ſuch a degree of motion in their legs and thighs, as to enable them to turn and move for their own convenience in bed, others have not that benefit, and are obliged to lie till moved by another.

When a naturally weak infant is the ſubject, and the curvature is in the vertebræ of the back, it is not infrequently productive of additional deformity, by gradually rendering the whole back what is commonly called humped; and by alterations which all the bones of the thorax ſometimes undergo, in conſequence of the flexure and weakneſs of the ſpine, by which ſuch perſons are

juſtly

juſtly ſaid to be ſhortened in their ſtature; but in all caſes where this effect has been gradually produced, to whatever degree the deformity may extend, or however the alteration made in the diſpoſition of the ribs and ſternum may contribute to ſuch deformity, yet I think that it will always be found, that the curvature of the ſpine appeared firſt, and, if I may ſo ſay, ſingly, and that all the reſt was conſequential.

While the curvature of the ſpine remains undiſcovered or unattended to, the caſe is generally ſuppoſed to be nervous, and medicines ſo called are moſt frequently preſcribed, together with warm liniments, embrocations, and bliſters, to the parts affected; and when the true cauſe is known, recourſe is always had to ſteel ſtays, the ſwing, the ſcrew chair, and other pieces of machinery, in order to reſtore the ſpine to its true and natural figure; but all, as far as I have obſerved, to no real or permanent good purpoſe; the patient becomes unhealthy, and languiſhing for ſome time under a variety of complaints, dies in an exhauſted, emaciated

ciated ſtate; or, which is ſtill worſe, drags on a miſerable exiſtence, confined to a great chair, or bed, totally deprived of the power of loco-motion, and uſeleſs both to himſelf and others.

This in an infant is moſt melancholy to ſee, in an adult moſt miſerable to endure.

The general health of the patient does not ſeem at firſt, to be materially, if at all, affected, but when the diſeaſe has been ſome time, and the curvature thereby increaſed, many inconveniences and complaints come on, ſuch as difficulty in reſpiration, indigeſtion, pain, and what they all call tightneſs at the ſtomach, obſtinate conſtipations, purgings, involuntary flux of urine and fæces, &c. with the addition of what are called nervous complaints; ſome of which are cauſed by the alterations made in the form of the cavity of the thorax, others ſeem to ariſe from impreſſions made on the abdominal viſcera. Theſe are different both in kind, and in degree, in different ſubjects, but ſeem to depend very

much

much on the consequences of the curvature —that is, in naturally infirm children, although the curvature of the dorsal vertebræ is always the first mark of the distemper, by preceding every other, yet it is frequently soon followed by such a degree of deformity of the bones of the trunk, as to be, in conjunction with the necessary inactivity and confinement of the patient, productive of all the ills above-mentioned.

An affecting instance of this distemper in the person of a very promising youth of fourteen years old, with whose family I was nearly connected, induced me to think more of it than perhaps I otherwise should have done; and the restoration of the use of his limbs, immediately after a seemingly accidental abscess near the part, engaged my attention still more, and became a matter of frequent, though not very satisfactory contemplation; I say unsatisfactory, because it served only to increase my doubts, without leading me toward a solution of them. The more I thought upon the subject, the more I was inclined to suspect that we had been

misled

miſled by appearances, and that a diſtempered ſtate of the parts forming, or in the neighbourhood of curvature, preceded, or accompanied it: in ſhort, that there was ſomething prediſpoſing, and that we had moſt probably miſtaken an effect for a cauſe.

For theſe ſuſpicions, I had the following reaſons, which appeared to me to have ſome weight:

1. That I had never ſeen this paralytick effect on the legs from a mal-formation of the ſpine, however crooked ſuch mal-formation might have rendered it, or whether ſuch crookedneſs had been from time of birth, or had come on at any time afterwards during infancy.

2. That none of thoſe ſtrange twiſts and deviations, which the majority of European women get in their ſhapes, from the very abſurd cuſtom of dreſſing them in ſtays during their infancy, and which put them into all directions but the right, ever cauſed any thing of this kind, however great the deformity might be.

3. That the curvature of the ſpine, which is accompanied by this affection of the limbs, whatever may be its degree, or extent, is at firſt almoſt always the ſame, that is, it is always from within, outward, and ſeldom or never to either ſide.

4. That ſince I had been particularly attentive to the diſorder, I had remarked, that neither the degree nor the extent of the curve, made any alteration in the nature or degree of the ſymptoms at firſt, nor for ſome time after the appearance; or, in other words, that the ſmalleſt curvature, in which only two or three of the vertebræ were concerned, was always, at firſt, attended by the ſame ſymptoms as the largeſt.

5. That although it ſometimes happened that a ſmart blow, or a violent ſtrain had immediately preceded the appearance of the curve, and might be ſuppoſed to have given riſe to it, yet in many more adults it happened that no ſuch cauſe was fairly aſſignable, and that they began to ſtoop, and to faulter in their walking, before they thought

thought at all of their back, or of any violence offered to it.

6. That exactly the ſame ſymptoms are found in infants, and in young children, who have not exerted themſelves, nor have been injured by others, as in the adult, who has ſtrained himſelf, or received a blow; and that the caſe was ſtill the ſame in thoſe grown people, who have neither done, nor ſuffered any act of violence.

7. That although it muſt be allowed, that a diſlocation of any of the vertebræ, would moſt probably be attended with the ſame kind of ſymptoms from the preſſure it muſt make on the ſpinal marrow, yet it is alſo moſt probable that ſuch ſymptoms would be immediate, and attended with great pain in the part; neither of which is in general the caſe here.

Theſe conſiderations appeared to me to have much force; but what confirmed me in my opinion was the ſtate of the parts forming the curvature, and which I had ſeveral fair opportunities of examining

after

after death. By theſe examinations I found in infants, in young children, and in thoſe who had been afflicted with the diſorder but a ſmall ſpace of time, that the ligaments connecting the vertebræ, which formed the curve, were in ſome degree altered from a natural ſtate, by being ſomewhat thickened and relaxed, and that what are called the bodies of thoſe bones, were palpably ſpread and enlarged in their texture, juſt as the bones forming the articulations are in children who are called ricketty. That in thoſe who had long laboured under the diſtemper, and in whom the ſymptoms were aggravated, whatever might be their age, the ligaments were ſtill more thickened, relaxed, and altered, the bodies of the bones more ſpread, more enlarged, and more inclining to become carious, and the cartilages between the bodies of the vertebræ much compreſſed and leſſened in ſize; and that in all thoſe who had ſo long laboured under the diſeaſe, as to have been deſtroyed by it, or by its conſequences, the corpora vertebrarum were compleatly carious, the intervening cartilages totally deſtroyed, and

a quantity of ſanies lodged between the rotten bones, and the membrane inveſting the ſpinal marrow*.

All theſe circumſtances put together, induced me, as I have already ſaid, to ſuſpect, that when we attribute the whole of this miſchief to the mere accidental curvature of the ſpine, in conſequence of violence, we miſtake an effect for a cauſe, and that previous both to the paralytic ſtate of the legs, and to the alteration of the figure of the back bone, there is a pre-diſpoſing cauſe of both, conſiſting in a diſtempered ſtate of the ligaments and bones, where the curve ſoon after makes its appearance.

While the ſubject was freſh in my mind, I happened to be at Worceſter, and in a converſation on it with the late Doctor Cameron of that place, I mentioned to him my opinion, and my doubts; the Doctor

* In the body of a man who died not long ſince, of this diſorder, in its laſt and worſt ſtate, the bodies of three of the vertebræ were not only quite carious, but compleatly ſeparated from all connections with the other parts of the ſame vertebræ.

concurred with me, and at the ſame time mentioned a circumſtance, which made a ſtrong impreſſion on me. He ſaid, that he remembered ſome years ago, to have noted a paſſage in Hippocrates, in which he ſpeaks of a paralyſis of the lower limbs being cured by an abſceſs in the back or loins, and that taking the hint from this, he, Dr. Cameron, had, in a caſe of a palſy of the legs and thighs, attended by a curvature of the back bone, endeavoured to imitate this act of nature, by exciting a diſcharge near the part, and that it had proved very advantageous. He alſo referred me to Mr. Jeffrys, a ſurgeon of eminence at Worceſter, for a farther account of the ſame kind of attempt; this gentleman confirmed what Dr. Cameron had told me, and aſſured me that he had found the method equally ſucceſsful.

It may eaſily be ſuppoſed, that theſe accounts from gentlemen of veracity, and of reputation in their profeſſion, ſtill added to my deſire of knowing more on this ſubject, and determined me to loſe no opportunity of getting information.

The firſt that offered was in an infant, whoſe curvature was in the middle of the neck, and who had loſt the uſe of its legs for about two or three months. I made an iſſue by inciſion on one ſide of the projection, and gave ſtrict charge to the mother to take care that the pea was kept in; the woman, who had no faith in the remedy, did not take the proper care, and conſequently the diſcharge was not equal to what it ſhould, and might have been; but notwithſtanding this neglect, at the end of about three weeks or a month the child was manifeſtly better, and began to make uſe of its legs; it was then ſeized with the ſmall-pox and died. The bodies of the vertebræ concerned in the curve, were larger than they ſhould be, and than thoſe above and below were, and their texture much more open and ſpongy, which difference appeared immediately, before the parts covering them were diſſected off.

Some time paſſed before I had another opportunity. My next patient was a tall thin man, about thirty-five years old, who thought that he had hurt himſelf by lifting a heavy

a heavy weight: his legs and thighs were cold, and what he called nummy, but not abſolutely uſeleſs: he could with difficulty go about the room with the help of a pair of crutches, but he could neither riſe from his chair, nor get on his crutches without the aſſiſtance of another perſon, nor could he without them walk at all.

I made a ſeton on each ſide of the curve, which was in his back, about the middle, and having given his wife directions how to dreſs them, I called on him once in three or four days. At the end of ſix weeks he had recovered the due degree of ſenſation in his limbs, and found much leſs neceſſity for the uſe of his crutches; he could riſe from his bed, and from his chair without aſſiſtance, and by means of one crutch, and an underhand ſtick, could walk for an hour, or more, without reſting, and without fatigue. The ſetons had now, from not having been properly managed, worn their way out, and I would have converted each of them into an iſſue, but as neither the patient nor his wife had ever believed that the diſcharge had had any ſhare in his

amendment, but on the contrary that he would have been better without it, he would not ſubmit to what I propoſed, and I left him. At the diſtance of about three weeks from the time of my leaving him, I met him in the ſtreet walking very ſtoutly, with a common cane, of which he made little or no uſe. I aſked him what he had done: he told me that the ſores had continued to diſcharge till within a few days, but that he had drank a great deal of comfrey-root tea, with iſinglaſs, and he ſuppoſed that had cured him.

I believe that the cure of this man will, by all who know any thing of medicine, be thought to be ſo unlikely to have been affected by the comfrey and iſinglaſs, that my inference in favour of the ſeton will not be thought unreaſonable, and that my determination to proſecute the method, from what I had heard and ſeen, was well founded.

Within the courſe of the laſt ten or twelve months, I have had ſeveral fair optunities of doing this, both in St. Bar-

tholomew's

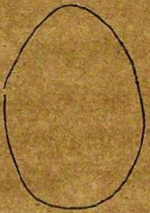
tholomew's hoſpital, and out of it, and am very happy to be able to ſay, that it has not only always anſwered, but in ſome inſtances greatly exceeded my moſt ſanguine expectations, by reſtoring ſeveral moſt miſerable and totally helpleſs people to the uſe of their limbs, and to a capacity of enjoying life themſelves, as well as of being uſeful to others.

I have now in the hoſpital a boy about twelve years old, whoſe caſe was ſo truly deplorable, that I made the experiment merely to avoid the appearance of inhumanity, by diſcharging him as incurable, without trying ſomething. The curvature was in his back, and conſiſted of three or four vertebræ, but by means of the weakneſs thereby induced, the whole ſet of dorſal ones had ſo univerſally and gradually given way, that he was exceedingly deformed both behind and before: he was ſo abſolutely incapable of motion, that he could neither turn himſelf, nor ſit up in his bed: his feet were pointed downwards, and his ancles ſo ſtiff, that when he was held up under the arms, the extremities of his great toes

touched the floor, nor could his feet be brought flat to the ground by any means, or force whatever. In ſhort, he was as perfectly and as totally helpleſs as can be ſuppoſed, and at the ſame time in an exceeding general bad ſtate of health, from diſorders of the thoracic and abdominal viſcera. In this ſtate he had been more than a year: it is now about three months ſince the cauſtics were applied; he is become healthy, and free from moſt of his general complaints, has the moſt perfect uſe of his legs while he is in bed, can walk without the aſſiſtance of any body, or any thing to hold by; and from his manner of executing this, will, I make no doubt, in a very ſhort ſpace, recover perfectly the uſe of his legs—To this I ought to add, that notwithſtanding a conſiderable degree of deformity does, and I ſuppoſe will, remain, yet the ſpine in general is ſo much ſtrengthened, that he is ſome inches taller than he was four months ago.

The remedy for this moſt dreadful diſeaſe conſiſts merely in procuring a large diſcharge of matter, by ſuppuration from underneath

derneath the membrana adipoſa on each ſide of the curvature, and in maintaining ſuch diſcharge until the patient ſhall have perfectly recovered the uſe of his legs. To accompliſh this purpoſe, I have made uſe of different means, ſuch as ſetons, iſſues made by inciſion, and iſſues made by cauſtic; and although there be no very material difference, I do upon the whole prefer the laſt. A ſeton is a painful and a naſty thing, beſide which it frequently wears through the ſkin before the end for which it was made can be accompliſhed: iſſues made by inciſion, if they be large enough for the intended purpoſe, are apt to become inflamed, and to be very troubleſome before they come to ſuppuration; but openings made by cauſtic are not in general liable to any of theſe inconveniences, at leaſt, not ſo frequently, nor in the ſame degree: they are neither ſo troubleſome to make or to maintain. I make the eſchars about this ſize and ſhape on each ſide the curve, taking care to leave a ſufficient portion of ſkin between them; in a few days, when



when the eſchar begins to looſen and ſeparate, I cut out all the middle, and put into each a large kidney-bean: when the bottoms of the ſores are become clean by ſuppuration, I ſprinkle every third or fourth day, a ſmall quantity of finely powdered cantharides on them, by which the ſores are prevented from contracting, the diſcharge increaſed, and poſſibly other benefit obtained. The iſſues I keep open until the cure is compleat, that is, until the patient recovers perfectly the uſe of his legs, or even for ſome time longer, and I ſhould think that it would be more prudent to heal only one of them firſt, keeping the other open for ſome time, that is, not only until the patient can walk, but until he can walk firmly, briſkly, and without the aſſiſtance of a ſtick; until he can ſtand quite upright, and has recovered all the height, which the habit, or rather the neceſſity of ſtooping occaſioned by the diſtemper, had made him loſe.

I have ſaid that the diſcharge by means of the iſſue, is all that is requiſite for a cure, which is true, as I have experimentally proved by not uſing any other, in caſes

which

which have ſucceeded perfectly; but this fact being eſtabliſhed, there is no reaſon why every aſſiſtant means ſhould not be applied at the ſame time, in order to expedite: ſuch as bark, cold-bathing, frictions, &c.

That the patient becomes more upright as his legs become ſtronger, is certain, and therefore appears taller, as well as ſtraighter in proportion, as the whole ſpine ſtrengthens; but whether the curvature will always and totally diſappear, I am not yet able to ſay with certainty. In two late inſtances, both adults, it has, but the deformity, which in weak infants and children, is often the conſequence of the curvature, and of the ſtate of the ſpine at that place, muſt in ſome degree, I fear, be expected to remain; but of this I am not yet able to ſpeak with abſolute certainty. There are a few other circumſtances, of no great moment perhaps, but which will require more time to aſcertain than I thought ſhould be ſuffered to paſs, before mankind were made acquainted with the great means of relief, in ſo diſtreſſing,

ſo melancholy, and ſo dreadful a malady: for the reader will be pleaſed to remember what I told him at the beginning of this tract, which was, that my motive for publiſhing this account ſooner than might appear in general to be right, or indeed than I otherwiſe ſhould have done, was a deſire that as little time as poſſible might be loſt, in conveying to the profeſſion in particular, and to mankind in general, the means of relief under an affliction, which, till theſe were known, has not admitted of any: and this I was ſtill more incited to do, becauſe the remedy is as harmleſs, and as void of hazard, as it is efficaceous.

IN the preceding tract I have related the appearances which the parts conſtituting the ſeat of the diſtemper make upon examination after death; or to ſpeak more properly, the different ſtates of theſe parts in different perſons, and at different periods of this diſeaſe.

diſeaſe. Theſe, though neceſſarily ſubject to conſiderable variety, may, I think, be reduced to three general ones.

1. A ſmall degree of an increaſe of ſize in the bodies of the vertebræ, forming the curve, with an apparent laxity in their texture, and a relaxed ſtate of the connecting ligaments, by which they ſeem to have loſt part of their power of holding the bones together.

2. A more conſiderable, and more apparent enlargement of the ſame parts of the vertebræ, whoſe ſpongy texture becomes more viſibly ſpread through their whole ſubſtance, and tending towards a caries, with an apparently diſtempered ſtate, both of the ligaments, and of the intervening cartilages.

3. A truly carious ſtate of the bodies of the bones, a diſſolution, or deſtruction of the cartilaginous ſubſtance between them, and a lodgement of ſanies on the ſurface of the membrane envelloping the ſpinal marrow.

Theſe

Theſe are I think the moſt particularly different ſtates or ſtages of the diſorder, and are ſuch as, in my opinion, deciſively mark the true nature of it.

Between theſe in different perſons, and under different circumſtances, there muſt be a conſiderable variety, but the material difference will be only in degree.

From the whole, the few following practical inferences ſeem fairly deducible.

1. That the diſeaſe does not originally conſiſt in a diſplacement of the vertebræ, made by violence, the bones and ligaments being previouſly in a ſound and uninjured ſtate; but in ſuch a morbid alteration of the texture of both, as will, if not timely prevented, produce curvature and caries; with all their conſequences.

2. That the proper remedies for this diſeaſe cannot be applied too ſoon.

3. That the reſtoration of the ſpine to its natural figure, depends much on the early adminiſtration of the help propoſed.

4. That although the diſtemper may be ſo far cured, that the patient may perfectly recover the uſe of his legs, yet ſuch an alteration may have taken place in the bodies of the vertebræ, as to render it impoſſible for the ſpine to become ſtraight again.

5. That when three or four, or more vertebræ, are concerned in the curve, the trunk of the body will have ſo little ſupport from that part of the ſpine which is not diſtempered, that no degree of deformity can be wondered at; nor can it be expected that ſuch deformity ſhould be removed, whatever other benefit ſuch patient may receive.

6. That if from inattention, from length of time, or from any other circumſtances, it happens that the bodies of the vertebræ become compleatly carious, and the intervening cartilages are deſtroyed, no aſſiſtance is to be expected from the propoſed remedy.

To theſe I will take the liberty of adding, that it appears to me well worth while,

while, to try what a large and free difcharge, made for a length of time from the vicinity of the diftempered part, might be capable of doing in the very beginning of what are commonly called fcrophulous joints; which when arrived to a certain point, baffle all our art, and render a painful and hazardous operation, abfolutely neceffary.

Within thefe laft fix or eight months, feveral cafes of curved fpine have been received into St. Bartholomew's hofpital, where they have been feen by great numbers of the profeffion. The novelty of the treatment, and the fuccefs which has hitherto conftantly attended it, has neceffarily engaged the attention of many, and occafioned fome converfations on the fubject. In fome of thefe it has been faid, that as it appears to be undeniably a difeafe of the bony texture of the bodies of the vertebræ, it may be apprehended, that the relief expected from the cauftics, may, in fome cafes, fail, and in others may not prove permanent; and, that the fame kind of conftitution

conſtitution remaining, a return of the malady may not unreaſonably be feared.

To this I can only anſwer, that although I have called this an early publication, yet I have waited a ſufficient length of time, and have treated a ſufficient number of ſubjects, to be clear in the truth of what I have aſſerted as far as ſuch time, and ſuch individuals go. That the patients whom I have attended in the early part of the diſtemper of whatever age, have all got well: that is have all not only regained the uſe of their legs, but have become healthy, and fit for any exerciſe or labour, as numbers can teſtify, who have ſeen them daily. Moſt of them have become much ſtraiter, ſome quite ſtrait, and all of them perfectly free from all kind of inconvenience ariſing from the Curve.

That in all the infants whom I have ſeen, the general health of the patient has always been reſtored in proportion to the reſtoration of the uſe of the limbs.

That I muſt ſuppoſe all this to have been done by the diſcharge from the cauſtics, becauſe in many of them no other means of any kind have been made uſe of.

That as far as my experience goes I have not the leaſt doubt, that if the means propoſed, be made uſe of before the bones are become really carious and rotten, that they will always be ſucceſsful. When indeed a truly rotten ſtate of the bones takes place no good is to be expected from this or from any thing elſe: but it ſhould be obſerved at the ſame time, that this never happens but when the diſtemper is of very old date, and that when this is the caſe, the whole machine is ſo diſordered, and the patient ſo truly and ſo generally diſtempered, that there can be no reaſonable expectation of ſucceſs from any thing.

To this I muſt take the liberty of adding, that what I have affirmed, is what I have ſeen and proved, and that the objection

jections are merely ſpeculative and theoretical. However, ſuppoſing them to be not quite unreaſonable, the moſt uſeful inference to be drawn from them is, that the ſame remedy by which ſo great and ſo evident relief is obtained ought to be continued, while there may be any fear of return of the miſchief, and that every other means for the reſtoration of health and ſtrength ſhould at the ſame time be made uſe of; both which coincide abſolutely with my own opinion and advice.

REMARKS

ON THE

NECESSITY, and PROPRIETY of the OPERATION

OF

AMPUTATION,

In certain CASES, and under certain CIRCUMSTANCES.

NO man however ſlightly acquainted with the hiſtory of Surgery, can have the ſmalleſt doubt of the ſuperiority which its preſent ſtate juſtly claims over that of our predeceſſors, eſpecially over that of our more remote ones.

The ſurgery of the laſt century, and even of ſome part of this, was coarſe and cruel in its operative part, painful and tedious in what is generally called the curative. A multiplicity of heavy unmanageable inſtruments characteriſed the former, and a variety of irritating applications the latter. By means of the one, many operations were rendered much more terrible to bear, as well as more hazardous in the event than they ought to have been; while long ſufferance, and tedious confinement, became the neceſſary conſequences of the uſe of the other.

To ſimplify the art has been the aim of all the beſt practitioners of later times, and to this they owe both their ſucceſs, and their reputation; by this they have reduced our inſtruments to a ſmall number, and have rendered thoſe which are now uſed much more manageable; upon the ſame plan, they have diſcharged a farrago of external applications, the majority of which were either uſeleſs, or miſchievous; a proſecution of the ſame method will, I make no doubt, produce greater improvements, but ſtill operations will for ever remain unavoidable in particular circumſtances, and ſome diſeaſes will ſtill ſometimes require applications which muſt produce uneaſineſs: to render theſe as ſeldom neceſſary, and as little painful as poſſible, ſhould be the buſineſs of every practitioner, and this is all that art can do, or that ſhould be expected from it. The boaſt of univerſal ſpecifics, of remedies infallibly preventative of diſeaſes, and of means whereby chirurgical operations may be rendered to-

tally

tally unneceſſary, is the language of quackery, and not of ſcience.

The amputation of a limb is an operation terrible to bear, horrid to ſee, and muſt leave the perſon on whom it has been performed in a mutilated imperfect ſtate; but ſtill it is one of thoſe which becomes, in certain circumſtances, abſolutely and inpenſably neceſſary.

To thoſe who are well acquainted with ſurgery, it muſt appear needleſs to have ſaid this; they well know the truth of it: but as they who have not had ſufficient opportunity of obtaining practical information, may be miſled by a contrary doctrine when boldly advanced; and as they who are really well informed may, under certain circumſtances, be deterred from acting up to their knowledge, I have thought that I ſhould not abſolutely miſpend my time, nor do mankind a diſſervice, if I took this opportunity of giving the ſubject a little conſideration.

I am the more inclined to do this for three reaſons :

1ſt. Becauſe I am ſatisfied that the propriety of amputations in certain caſes, ſtands upon as fixed and as rational principles as any part of ſurgery.

2d. Becauſe a contrary doctrine has within a few years been boldly, and induſtriouſly propagated, not without ſome very indecent, as well as untrue reflections, on the profeſſion in general, and on thoſe who have the care of hoſpitals in particular : and

3dly. Becauſe I am convinced that ſuch doctrine has been employed to the prejudice of mankind, by covering Ignorance, and Timidity, and alſo for ſerving the baſe purpoſe of malevolence.

" Ne occidiſſe niſi ſervaſſet," is under certain limitations a very juſt and prudent maxim, but taken at large may be productive of much miſchief. Mankind are rather too apt to form their opinion from events only; ſucceſs with many conſtitutes propriety, and the failure of it is

often

often very unjuſtly ſet to the account of miſconduct, or of want of knowledge. A young practitioner at a diſtance from aſſiſtance, and thereby deprived of that ſupport, may be afraid to put his character to hazard, by acting in ſuch manner as although it might juſtly entitle him to ſucceſs, yet cannot command it. He may underſtand his art, but art is not infallible. He may be a very excellent ſurgeon, and yet be afraid to encounter the prejudices of ſome, or the malevolence of others.

A few years ago a book was publiſhed profeſſedly to oppoſe, and condemn the practice of amputation in all caſes whatever, and almoſt without exception. The book was written by a Mr. Bilguer, a ſurgeon in the Pruſſian ſervice; Mr. Tiſſot wrote ſome Annotations on it, and a Preface, announcing its great and wonderful merit and utility; and the whole was tranſlated into Engliſh, and dedicated to Sir John Pringle. Both the Book and the Annotations, contain ſome very extraor-

dinary

dinary doctrines and aſſertions, neither of which it is my intention to criticiſe in this place. They who read the work, and underſtand the ſubject, will I verily believe have but one opinion. The writer as well as the annotator may have meant well, but certain I am if their opinions were generally followed, mankind would be great ſufferers. The particular caſes in which the operation of amputation is totally and abſolutely unneceſſary, and therefore wrong, are, in his own words, or at leaſt in thoſe of his tranſlator, as follows:

"1ſt. A mortification which ſpreads "until it reaches the bone.

"2dly. Any limb ſo greatly hurt, "whether by fracture or dilaceration, that "there is room to dread the moſt fatal "conſequences.

"3dly. A violent contuſion of the ſoft "parts, which has at the ſame time ſhat- "tered the bones.

"4thly.

" 4thly. Wounds of the larger veſſels,
" which convey blood into the limb, either
" as the only way of ſtopping the Hæmorr-
" hage, or through apprehenſion it ſhould
" periſh for want of nouriſhment.

" 5thly. An incurable caries of the
" bone."

In the firſt of theſe the art of ſurgery has very little to do, except the mere ſawing the bones through; nature, if the patient lives, will in general do all the reſt, and will remove the limb whether the ſurgeon may chooſe it or not. In the 2d, 3d, and 4th, what the writer has aſſerted is ſo repugnant to the univerſal ſenſe of all the ableſt and beſt practitioners, to common ſenſe, and to conſtant experience, and his doctrine would, if followed, be productive of ſo much miſchief to mankind, that I cannot help bearing my teſtimony againſt it. But as flat contradictions have no more authority than poſitive aſſertions, I take this opportunity of giving my reaſons, for a different opinion, at large.

The caſes, in which, under *certain circumſtances,* amputation *may* become neceſſary for the preſervation of the patient's life, are ſeveral, but I will confine myſelf to four.

Theſe are: Firſt—A compound fracture.

2. Some kind of ſcrophulous joints.

3. Some kind of aneuriſms.

4. A caries of the whole ſubſtance of the bone or bones compoſing a limb.

In all, and each of which, it may, and does ſometimes ſo happen that the patient's life can be only preſerved by the loſs of his limb. This doctrine is very oppoſite to that of the book juſt cited, but if it be conſonant to truth and experience, it matters not from whom it may differ.

In compound fractures, there are three points of time, in which the operation of amputation may become neceſſary. The firſt of theſe is immediately, or as ſoon as

may be after the receipt of the injury. The ſecond is, when the bones continue for a great length of time without any diſpoſition to unite, and the diſcharge from the wound has been ſo long, and is ſo large, that the patient's ſtrength fails, and general ſymptoms foreboding diſſolution come on; and the third is, when a mortification ſhall have taken ſuch compleat poſſeſſion of the ſoft parts of the inferior part of the limb, quite down to the bone, that upon ſeparation of ſuch parts, the bone or bones ſhall be left bare in the inter-ſpace.

The firſt and ſecond of theſe are matters of very ſerious conſiderations. The third hardly requires any.

When a compound fracture is cauſed by the paſſage of a very heavy body over a limb, ſuch, for inſtance, as the broad wheel of a waggon, or a loaded cart, or by the fall of a very ponderous body on it, or by a cannon-ſhot, or by any other means ſo violent as to break the bones into many frag-

fragments, and ſo to tear, bruiſe and wound the ſoft parts, that there ſhall be good reaſon to fear that there will not be veſſels ſufficient to carry on the circulation with the parts below the fracture, it becomes a matter of the moſt ſerious conſideration, whether an attempt to ſave ſuch perſon's limb, will not be the occaſion of the loſs of his life: this conſideration muſt be before any degree of inflammation has ſeized the part, and therefore muſt be immediately after the accident.

When inflammation, irritation and tenſion have taken place, and when the air admitted freely into the tela celluloſa has begun to exert its pernicious influence, it is too late an operation then, inſtead of being beneficial, would prove deſtructive.

The neceſſity of immediate, or very early deciſion in this caſe, ariſing from the circumſtances already mentioned, make this a very delicate part of practice: for however preſſing the caſe may ſeem to the ſurgeon

to be, it will not in general appear in the ſame light to the patient, to the relations, or to bye-ſtanders; they will be inclined to regard the propoſition as ariſing from ignorance how to treat the caſe properly, or from an inclination to ſave trouble, or perhaps from a ſtill worſe motive, a deſire to operate; and it will often require more firmneſs on the part of the practitioner, and more reſignation and confidence on the part of the patient, than is generally met with, to ſubmit to ſuch a ſevere operation, in ſuch a ſeeming hurry, and upon ſo little apparent deliberation; and yet it often happens, that the ſuffering this point of time to paſs, decides the patient's fate. I muſt repeat, that this neceſſity of early deciſion, ariſes from the very juſt dread of the ill effects of a greatly obſtructed circulation, owing to a large deſtruction of veſſels; theſe added to thoſe ariſing from pain, irritation, and the admiſſion of air, often produce a high fever, and intenſe inflammation, ending, and that very ſhortly, in

gangrene, mortification and death. That this is no exaggeration, melancholy and frequent experience evinces, even in thoſe whoſe conſtitutions previous to the accident were in good order; but much more in thoſe, who had been heated by violent exerciſe, or labour, or liquor, who have led very debauched and intemperate lives, or who have habits naturally inflammable, and irritable.

This may be, and often is the caſe, when the fracture happens to the middle part of the bones, at the greateſt poſſible diſtance from the extremities, but is much more likely to happen, and indeed much more frequently is the caſe, when any of the large joints are concerned; the circumſtances of broken bones in theſe parts, and of torn, bruiſed, and wounded ligaments, to ſay nothing of the admiſſion of air into joints, are dreadful additions to the hazard, and demand a ſpeedy deciſion, as they are

productive

productive of the worſt conſequences in the ſhorteſt ſpace of time; and, therefore, that in many of theſe caſes, a determination for or againſt amputation, is really a determination for or againſt the patient's exiſtence, is a truth of which I am as well ſatisfied, as I am, or can be, of any truth whatever.

That it would have been impoſſible to have ſaved ſome limbs which have been cut off, no man will pretend to ſay, no man that knows any thing of the matter can ſay it: but this does not at all alter the conſideration, or render the practice injudicious or blameable, the queſtion really ſtanding thus: Do not the majority of thoſe whoſe misfortune it is to get into the juſt mentioned hazardous circumſtances, and on whom the operation of amputation is not performed, periſh, and that by means of their wounds? or, to put the ſame queſtion into other words, have not many lives been preſerved by means of amputation, which

from the ſame circumſtances would otherwiſe moſt probably have been loſt?—It is not for me, eſpecially after what I have ſaid, to determine it: it is not indeed for any one man to do it; I therefore appeal to all the beſt practitioners, to thoſe who have ſeen the moſt of theſe accidents, for the truth of the aſſertion.

When a judicious man ſays that a limb ought to be removed, it is not to be ſuppoſed that he means to ſay, that it is abſolutely impoſſible, at all events, that ſuch limb can be ſaved, nor, that ſuch patient muſt infallibly die, if the operation be not performed; no, he only means, that from repeated experience of himſelf, and others, in all times, it has been found, that the circumſtances above-mentioned, put the patient's life much more to hazard in an attempt to ſave the limb, than the operation does in removing it; and therefore that humanity as well as judgement determine for the latter. On the other hand it muſt be allowed, that from ſome of the worſt of theſe caſes, ſome have had the good fortune

to

to eſcape; but eſcapes they ſo truly are, that I make no ſcruple to affirm, that in certain caſes and circumſtances a determination not to amputate, is a determination much more unfavourable and hazardous to the patient, than that for amputation can be.

It is, I think, impoſſible for any perſon who has either ſenſe or candour, ſo to miſconſtrue what I have ſaid, as to imagine that I would recommend the amputation of the majority of limbs which have ſuffered a compound fracture; ſuch conduct would be as injudicious as it would be cruel:—My meaning is, that the operations ſhould be limited and confined to certain caſes and circumſtances, already mentioned, and that under them it is not only proper, but neceſſary.

Preſſing and urgent as the ſtate of a compound fracture may be at this firſt point of time, ſtill it will be a matter of choice whether the limb ſhall be removed or not,

 very

very ſerious deliberation may be required, added to all the judgement and experience of the moſt able practitioner, to determine what may be moſt for the patient's ſafety: but at the ſecond period which I have mentioned, the operation ceaſes to be a matter of choice, it muſt be ſubmitted to, or the patient muſt die.

The moſt unpromiſing appearances at firſt do not neceſſarily or conſtantly end unfortunately. Every body converſant with buſineſs of this kind, knows, that ſometimes, after the moſt threatening firſt ſymptoms, after conſiderable length of time, great diſcharges of matter, and large exfoliation of bone, it happens, that notwithſtanding all theſe difficulties and diſcouragements, ſucceſs ſhall ultimately be obtained, and the patient ſhall recover his health and the uſe of his limb.

But it is alſo as well known, that after the moſt judicious treatment through every ſtage of the diſeaſe; after the united efforts

of

of phyſick and ſurgery, it ſometimes happens that the ſore inſtead of granulating kindly, and contracting daily to a ſmaller ſize, ſhall remain as large as at firſt, with a tawny, ſpongy ſurface, diſcharging a large quantity of thin ſanies, inſtead of a ſmall one of good matter: that the fractured ends of the bones, inſtead of tending to exfoliate, or to unite, will remain as perfectly looſe and diſunited as at firſt, while the patient ſhall loſe his ſleep, his appetite, and his ſtrength, a ſymptomatic fever of the hectical kind, with a quick, ſmall, hard pulſe, profuſe ſweats, and colliquative purgings, contributing at the ſame time to bring him to the brink of the grave, notwithſtanding every kind of aſſiſtance. In theſe circumſtances, which are by no means uncommon, if amputation be not performed, I ſhould be glad to be informed, what elſe can reſcue the patient from deſtruction?

Let it not, by way of anſwer, be ſaid, that a more generous plan of diet ſhould be preſcribed; that bark, cordials, anodynes,

aſtringents, &c. ſhould be taken, becauſe I ſhould be very ſorry to have it ſuppoſed that I was either ſo unknowing or ſo brutal as to think of amputation, before every thing of this kind had been fairly and fully tried, and found ineffectual. I confeſs that I know of nothing but the operation which can be attempted, and when, inſtead of this, I hear people talk of ſpecific balſams, particular fomentations, &c. I can only be ſorry to find that they are ſo weak, or ſo wicked.

I might in this place mention a caſe which I have twice ſeen, which is, that in a compound fracture, which has got well through the firſt or inflammatory ſtate, the bones, inſtead on the one hand of exfoliating, or uniting, or on the other, of remaining intirely diſunited, ſhall (in particular conſtitutions) become thoroughly diſtempered and enlarged through their whole ſubſtance, forming ſuch a kind of caries, as nothing but amputation can cure.

The third and laſt period which I mentioned regarding compound fractures, and requiring amputation, is indeed a matter which does not require much conſideration.

Every practitioner knows that ſometimes, too often indeed, it happens that the inflammation conſequent upon the injury, inſtead of producing abſceſs and ſuppuration, tends to gangrene and mortification; the progreſs of which is often ſo rapid, as to deſtroy the patient in a very ſhort ſpace of time, conſtituting that very ſort of caſe in which amputation ſhould have been immediately performed. But it alſo ſometimes happens, that even this dreadful and very threatening malady, is, by the help of art, put a ſtop to, but not until it has totally deſtroyed all the ſurrounding muſcles, tendons, and membranes, quite down to the bone, which upon the ſeparation of the mortified parts, is left quite bare, and all circulation between the parts above and thoſe below, is, by this, totally cut off. If it ſhould be ſaid, that merely ſawing the bare bones cannot be

be called amputating, I will not diſpute about the propriety of the phraſe, but only beg leave to obſerve, that call the operation by what name you pleaſe, the patient loſes his limb.

The caſe is exactly the ſame, when a mortification, from whatever cauſe, has ſeized the lower part of a limb, and produced the ſame effect—That is, in the very caſe which Mr. Bilguer has mentioned, of mortification ſeizing all the parts down to the bone, let the cauſe be what it may, if the effect be the deſtruction of all the ſoft parts down to the bone or bones, either the ſurgeon muſt ſaw them, or they muſt be left to ſeparate; in either caſe the patient loſes his limb.

Scrophulous joints, with enlarged carious bones, and diſtempered ligaments, make a ſecond kind of caſe, in which I have ſaid that amputation may become abſolutely neceſſary.

There is one circumſtance attending this kind of complaint, which often renders it

particularly

particularly unpleaſant, which is, that the ſubjects are moſt frequently young children, or at leaſt are at ſo early an age as to be incapable of determining for themſelves, which inflicts a very diſtreſſing taſk on their neareſt relations.

The common people call theſe, white ſwellings, a term not very unapt, becauſe it conveys an idea of one mark of the diſtemper, which is, that notwithſtanding the increaſe of ſize in the joint, the ſkin is not inflamed but retains its natural colour.

An hiſtory of this kind of diſeaſe is a thing very much wanted, and I much wiſh that ſome man who has leiſure and capacity, and who has ſeen buſineſs, would undertake it. If I was poſſeſſed of the requiſite knowledge, it would carry me too far from my preſent purpoſe, which is only to prove that when it affects the joints in a certain manner, and to a certain degree, that then the miſchief which it cauſes, is ſuch, that nothing but the removal of the joint can remedy.

Whoever has had opportunity of feeing much of this difeafe, muft know, that all the efforts of phyfick and furgery, by internal as well as external means, do often prove abfolutely ineffectual not only to cure, but even to retard the progrefs of this moft terrible malady.

I fhould be forry to be mifunderftood: I do not mean to fay that this is always, or even moft commonly the cafe, nor that fcrophulous joints are not fometimes relieved, and even cured by means of art; I fincerely wifh that they were more frequently, and that we were poffeffed of more effectual remedies for this purpofe than we are, or at leaft than I am acquainted with; but to the great misfortune of fcrophulous people, every man converfant with bufinefs, knows, that the difeafe often begins in the very inmoft receffes of the cellular texture of the heads of the bones forming the larger articulations, fuch as the hip, knee, ancle, and elbow; that the bones fo affected fpread

gradually, and become inlarged to a very confiderable degree, and carious throughout, fometimes with great pain and fymptomatic fever, fometimes with very little of either, at leaft in the beginning: that the cartilages covering the ends of thefe bones, and defigned for the mobility of the joints, are totally deftroyed: that the epiphyfes in many young fubjects, are either partially or totally feparated from the faid bones: that the ligaments of the joints are fo thickened and fpoiled by the diftemper, as to lofe all natural appearance, and become quite unfit for all the purpofes for which they were intended: that the parts appointed for the fecretion of the fynovia, become diftempered in like manner; that all thefe together furnifh a large quantity of ftinking fanious matter, which is difcharged either through artificial openings made for the purpofe, or by fmall ones made by erofions, and that thefe openings commonly lead to bones which are rotten through their whole texture; that bad as this is, it is not all, nor the worft: for when the difeafe is got into

this

this ſtate, the conſtant pain, the irritation; and the abſorption of poiſon from all theſe diſtempered parts, bring on a fever of the truly hectical kind, attended with the moſt deſtructive general ſymptoms, ſuch as total loſs of appetite, reſt, and ſtrength, profuſe night ſweats, and as profuſe purgings, which foil all the efforts of medicine, and bring the patient to the brink of deſtruction.

That this is no exaggeration is known to every body.

Now, ſuppoſing that the art of ſurgery, or, what is by many ſuppoſed to be more capable, the art of quackery, could exfoliate all the bones of a large joint, and reſtore the internal and medullary parts of it to a ſound ſtate; ſuppoſing either of them capable of giving the ligamentous parts a new and healthy ſtructure, and of re-uniting the looſened epiphyſes; I ſay, ſuppoſing, againſt all ſenſe and experience all this to be practicable, yet it muſt require a length of time

to

to accompliſh, which ſuch patients ſtate will not admit.

The ſtate which I have deſcribed is no uncommon one, neither are the circumſtances at all exaggerated, but it is the ſtate of a perſon haſtening rapidly to deſtruction, who has no time to loſe, and whoſe life can be preſerved by the removal of the limb only.

That unleſs the operation be performed, ſuch patient will periſh, is an inconteſtible truth; and it is as inconteſtibly true, that numbers in the ſame circumſtances, have, by ſubmitting to the operation, recovered firm and vigorous health, which they have enjoyed for many years, or even during a long life; and therefore bad as this ſtate of things is, and terrible as it muſt be to loſe a limb, yet if it be thought preferable to parting with life, it is a conſolation to have the malady fall on a part where amputation can be performed, ſuch as the knee, ancle, or wriſt, rather than on the hip, where it

cannot

cannot, or on the parts about the lumbal vertebræ, theſe cauſing thoſe moſt dreadful and moſt deſtructive diſtempers, known * by the names of the Lumbal and Pſoas Abſceſs.

The

* M. Bilguer, and M. Tiſſot, are the only people whom I have met with, or heard of, in the profeſſion, who ſpeak of an amputation in the joint of the hip as an adviſeable thing, or as being preferable to the ſame operation in the thigh: the doctrine is ſo new, and ſo uncommon, that I muſt beg leave to cite the whole paſſage in their own words, leſt my reader ſhould not give me credit.

" The difficulty attending amputation in the upper parts " of the thigh is ſo conſiderable, that ſurgeons rather chuſe " to abandon to their fate thoſe wounded men where it ap- " pears neceſſary, than to undertake it; and I own I am of " the ſame opinion with them: If, neverthelefs, a caſe oc- " curred, wherein the death of the patient was certain, if " amputation was not performed, I would even *prefer* taking " off the limb at the articulation *rather than at any other* " *place.*"

The reaſon which M. Bilguer gives for this is as extraor- dinary: " for although it be extremely difficult, yet it pre- " vents the inconveniences and accidents which a ſtump " might occaſion."

M. Bilguer's annotator ſeems determined not to be behind hand with his author, part of his note on the preceding paſſage being as follows——" I am of opinion that if any " one had the misfortune of being reduced to the neceſſity of

choosing

The third kind of diſorder which I mentioned as ſometimes producing the neceſſity of amputation, was the aneuriſm.

" chooſing between amputation at the upper part of the thigh, " or at the articulation itſelf, one reaſon for preferring the " latter would be, the greater eaſe there is in ſtopping the " hœmorrhage of the crural artery."—Very extraordinary doctrine this!

That amputation in the joint of the hip is not an impracticable operation (although it be a dreadful one) I very well know: I cannot ſay that I have ever done it, but I have ſeen it done, and am now very ſure I ſhall never do it unleſs it be on a dead body.—The parallel which is drawn between this operation, and that in the joint of the ſhoulder, will not hold —In the latter it ſometimes happens, that the caries is confined to the head of the os humeri, and that the ſcapula is perfectly ſound and unaffected. In the caſe of a carious hip-joint, this never is the fact; the acetabulum iſchii, and parts about, are always more or leſs in the ſame ſtate, or at leaſt in a diſtempered one, and ſo indeed moſt frequently are the parts within the pelvis—A circumſtance this of the greateſt conſequence; for the power of performing the operation beyond the ſeat of the diſeaſe, and conſequently of totally removing all the diſtempered parts, is the very deciſive circumſtance in favour of amputation every where but in the hips, where (to ſay nothing of the horridneſs of the operation itſelf) the hæmorrhage from a multiplicity of veſſels, ſome of which are of conſiderable ſize, and the immenſe diſcharge which a ſore of ſuch dimenſions muſt furniſh, the diſtempered ſtate of the parts, which cannot by the operation be removed, will render it ineffectual, bold and bloody as it muſt be.

That kind of dilatation of the arterial tube which is called a true aneurifm, is fometimes found in the middle, fometimes in the upper part of the thigh, and fometimes in the ham.

The general characteriftic marks of this diftemper, are a circumfcribed tumor, fmall at its firft appearance, but gradually increafing, and for fome length of time having a pulfatory motion and feel exactly correfpondent with the patient's pulfe at the wrift; this pulfation arifing from the motion of the blood from the heart through the artery, is very eafily feen and felt for fome length of time, but as the tumor becomes gradually larger, the pulfation in it becomes more and more obfcure to the touch, and in length of time, when either the artery is dilated to a very confiderable fize, or has burft, and has fhed part of its contents, the motion becomes in fome cafes fo obfcure as hardly to be felt at all, or at leaft not without very diligent attention. When it has got into this ftate, whether it be femoral or popliteau, the lower part of the

the limb becomes, by the pressure of the extravasated blood, and by the obstruction to the circulation through the dilated artery, considerably loaded, and swollen, unfit for use or motion, and generally very painful.

This is the state, or very nearly the state, in which we most frequently see it, especially among the labouring poor, who generally neglect it until it renders them lame and incapable of following their employment; and when it is got into this state, it requires immediate attention.

In what manner is this disease, when got to this point, to be treated? or how is the cure of it to be attempted? for if something be not done, the limb will become mortified, and the patient will perish.

If a man was to answer from theory, he would say, that the skin is to be divided, the extravasated blood to be cleared away, and the artery to be tied above and below the dilatation—in short, that what is called the operation for the aneurism, is to be performed.

Sorry I am to find myſelf obliged to ſay, that as far as my obſervation and experience go, ſuch operation, however judiciouſly performed, will not be ſucceſsful, that is, will not ſave the patient's life.

In both theſe aneuriſms, the femoral and the popliteau, it moſt frequently happens, that the artery is not only dilated and burſt, but it is alſo diſtempered ſome way above the dilatation, particularly in the popliteau. This may very probably be one reaſon why the ligature is in general ſo unſucceſsful. The want of collateral branches of ſufficient ſize to carry on the circulation, is another very powerful impediment. Whether theſe may be allowed ſufficient to fruſtrate the attempt, by the operation, I will not take upon me to ſay; but certain I am, that it does not ſucceed: I have tried it myſelf more than once or twice; I have ſeen it tried by others, but the event has always been fatal; exceſſive pain, a high degree of ſymptomatic fever, great tenſion of the whole limb, rapidly tending to gangrene, and ending in mortification both upwards

and

and downwards, have destroyed all those whom I have seen on whom the operation of tying the artery has been practised.

Nor have I ever seen any other operation than that of amputation, which has preserved the life of the patient.

To this an objection has been made by some, which, if it was founded in fact, would be a very valid one. It has been said, that the aneurism in the thigh, or ham, is very seldom the only one which the patient labours under, and that he most frequently has the same kind of dilatation either of the aorta, or of some of the larger vessels within the body. This is urged as a reason against amputation in this disease; they who maintain this opinion, very justly observing, that it cannot be of any use to cut off a patient's leg for a femoral, or a popliteal aneurism, who will, in all probability, be destroyed very soon by the same kind of disease in another part of him.

If the datum was true, the inference would be just, but it is not. When I say

that it is not true, I mean that it is not conſtantly or neceſſarily, or even generally ſo, as I can from repeated experience affirm, having ſeveral times performed the operation of amputation for both theſe, on people who have lived ſeveral years after, without any ſymptoms of the ſame kind of diſeaſe in any other part of them. Indeed, the determination for an operation when a popliteal aneuriſm is arrived to the ſtate which I have juſt deſcribed, is hardly to be called a matter of choice: it is indeed a matter of abſolute neceſſity. When the ſwelling from the extravaſated blood is become ſo large, that the pulſatory feel of the artery is rendered very obſcure, the whole limb below is exceedingly loaded and ſwollen, the return of the fluids, both by the veins and by the lymphatics, ſo very difficultly executed, that the patient gets little or no reſt from the conſtant pain, and if ſome relief be not obtained, and that ſpeedily, from the art of ſurgery, gangrene and mortification are the inevitable conſequences.

The means of relief are two—and two only; the operation of amputation, and that of tying the artery above and below the diseased part.

The operator undoubtedly may make his choice between them, and follow the dictates of his own judgment, and his own experience; but it must be worth his while to observe, that for the success of the latter, a free circulation through all the inferior part of the limb, seems to be a very necessary circumstance, and that when the load, and pressure, and obstruction are become so great as even to threaten gangrene and mortification, which is frequently the case, such free circulation is not much to be expected; but, on the contrary, all the evils arising from a very obstructed one, and that through distempered parts.

There is another kind of complaint affecting the leg, removable (as far as my experience goes) by amputation only, which is one reason why I mention it in this place, and to which I might add another reason, which is

that it either derives its origin from a burſten artery, or at leaſt is always accompanied by it.

I know no name to give it, or under what claſs to range it, but will deſcribe it in the beſt manner I can.

It has its ſeat in the middle of the calf of the leg, or rather more toward its upper part, under the gaſtroenemius and ſoleus muſcles: it begins by a ſmall, hard, deep-ſeated ſwelling, ſometimes very painful, ſometimes but little ſo, and only hindering the patient's exerciſes; it does not alter the natural colour of the ſkin, at leaſt until it has attained a conſiderable ſize; it enlarges gradually, does not ſoften as it enlarges, but continues through the greateſt part of it incompreſſibly hard, and when it is got to a large ſize, it ſeems to contain a fluid which may be felt towards the bottom, or reſting, as it were, on the back part of the bones. If an opening be made for the diſcharge of this fluid, it muſt be made very deep, and through a ſtrangely diſtem-

pered

pered maſs. This fluid is generally ſmall in quantity, and conſiſts of a ſanies mixed with grumous blood: the diſcharge of it produces very little diminution of the tumor, and in the few caſes which I have ſeen very high ſymptoms of irritation and inflammation come on, and advancing with great rapidity, and moſt exquiſite pain, very ſoon deſtroy the patient, either by the fever, which is high and unremitting, or by a mortification of the whole leg.

If amputation has not been performed, and the patient dies, after the tumor has been freely opened, the mortified and putrid ſtate of the parts, prevents all ſatisfactory examination; but if the limb was removed without any previous operation (and which, as far as my experience goes, is the only way of preſerving the patient's life), the arteria tibialis poſtiea will be found to be inlarged, diſtempered, and burſt; the muſcles of the calf of the leg to have been converted into a ſtrangely morbid maſs, and the poſterior part of both the tibia and the fibula more or leſs carious.

The

The fourth kind of diſtemper which I mentioned, as being ſometimes productive of the neceſſity of amputation, is a caries of the whole bone or bones forming a limb. By this I would be underſtood to mean a caries poſſeſſing not only the ſurface of ſuch bones, but the whole internal ſubſtance, and that from end to end. This I take to be the very individual caſe, in which both M. Bilguer, and M. Tiſſot, have reprobated amputation, and which the former has mentioned in his fifth article, under the title of Incurable Caries.

The terms in which M. Bilguer has choſen to expreſs himſelf, are rather unfortunate.

After having mentioned three or four different diſtempers, in which, in certain caſes, and under certain circumſtances, amputation has in general been thought neceſſary and right, and in which he is of a totally different opinion, he adds—An *incurable* caries of the bones, which *incurable*

caries,

caries, he ſays, ought not to be amputated, becauſe there is a method of curing it.

If this was merely a blunder in language, and went no farther, it would be a matter of little importance, but it is a ſerious piece of advice, delivered authoritatively, and by a writer who profeſſes to correct the errors both of his predeceſſors and cotemporaries, therefore it ſhould not be merely laughed at; and as it is an advice which is not built on fact, and which is fraught with miſchief to mankind, it ought to be contradicted.

That bones become carious from a variety of cauſes, ſuch as the ſtruma, the lues venerea, deep-ſeated impoſthumation, preſſure, &c. is well known to every body; and that ſuch carious bones properly treated will exfoliate, and caſt off their rotten parts, is as well-known; but, when in ſome particular habits, whether ſcrophulous, ſcorbutic, or cancerous, the whole ſubſtance of the bone becomes diſeaſed, not only on its ſurface, but through its whole internal medullary

dullary texture, and that from end to end, the ſame means, be they what they may, will not avail. The uſe of the ſcalper, the raſpatory, and the rugine, for the removal of the diſeaſed ſurface of bones; of the trephine, for perforating into the internal texture of carious ones, and of what are called exfoliating applications, are as well known, I preſume, to every practitioner, as to M. Bilguer; but giving to theſe all their real or their ſuppoſed merit, ſtill I affirm, and that from repeated experience, that there are caſes of caries, in which none of theſe will ſucceed, though ever ſo judiciouſly uſed; that neither by theſe, nor by any other means, can an exfoliation be obtained; and that, unleſs the whole bone be removed by amputation, the patient will periſh.

The metaphor, or ſimile, by which M. Bilguer endeavours to illuſtrate his meaning, is ſomewhat ſingular: he ſays, "The real "method of doing ſervice to bones con- "ſumed by caries, is like what happens to "boards

" boards joined together by nails: if you " make them excessively dry, the nails fall " out of themselves, &c."

Now admitting what I think will not be admitted, that this simile conveys a just and true idea of the manner in which the rotten parts of bones are separated from the sound, yet it necessarily implies, that in these very bones there are some sound part or parts, from which the rotten are to be dried off, in order to loosen the nails, and that the existence of such sound parts is the sine qua non of the cure.

It may, perhaps, in answer to this be said, that proper treatment, external and internal, may so alter and correct even the carious part of a bone, as to render it capable of parting with the rest, and thereby of becoming sound. I say, admitting this, which is not in general admissible, yet it sometimes happens, that there is not time for such experiment, and that even in very young subjects, the whole habit is by the rotten

rotten bone, ſo poiſoned and ſpoiled, that a hectic fever of the putrid kind, with all its horrid train of horrid ſymptoms, will, in ſpite of all the efforts of phyſick and ſurgery, in ſpite of bark and every other ſpecific, in ſpite of drying, burning, raſping, and boring, come on, and in a very ſhort ſpace of time deſtroy the patient, unleſs reſcued by amputation, which alone can remove a whole bone.

I have as high an opinion of, and as juſt a reverence for, both branches of the medical art as any man, but I alſo know, that they are both in many inſtances exceedingly unequal to our expectations, and very much limited.

This is a diſagreeable and an unfortunate truth, but ſtill it is a truth, and ſo much ſo, that whoever profeſſes a contrary opinion, is either much deceived himſelf, or inclined to deceive others.

POSTSCRIPT.

In the firſt of the preceding tracts (that on the curved ſpine) I have omitted a few circumſtances which I ought to have mentioned, and which are: that the palſy, or debility, or incapacity of motion, or by whatever name it may be thought proper to call the effect produced on the legs and thighs, not only never affects the arms, but always affects both the lower limbs, and both of them equally.

That the firſt ſenſation of alteration in thoſe who are capable of attending to, and of deſcribing it, is always ſaid by them to begin in the thighs, by producing an unuſual degree of ſenſibility, and frequent irregular twitchings in the muſcles.

That, although in many caſes it is, and muſt be a long time before the patient walks firmly and well, yet he ultimately does ſo; and in all the time preceding this period, although ſuch patient walks weakly and unſteadily, yet it is a very different kind of

weakneſs

weaknefs and unfteadinefs from that which is feen in people who have had what is called a paralytic ftroke, and very diftinguifhable from it; and, that practitioners muft expect to meet with a confiderable degree of variety in different perfons, with regard to their recovery of the ufe of their legs at all, fome being fo happy as to attain it in a few weeks, while others are obliged to wait many months.

F I N I S.